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Corrigendum

Corrigendum to 'Crustal rheology of southern Tibet constrained from lake-induced viscoelastic deformation' [Earth and Planetary Science Letters 506 (2019) 308–322]

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The authors regret errors in Figs. 4 and 9, and these should appear as follows:

The authors would like to apologise for any inconvenience caused.

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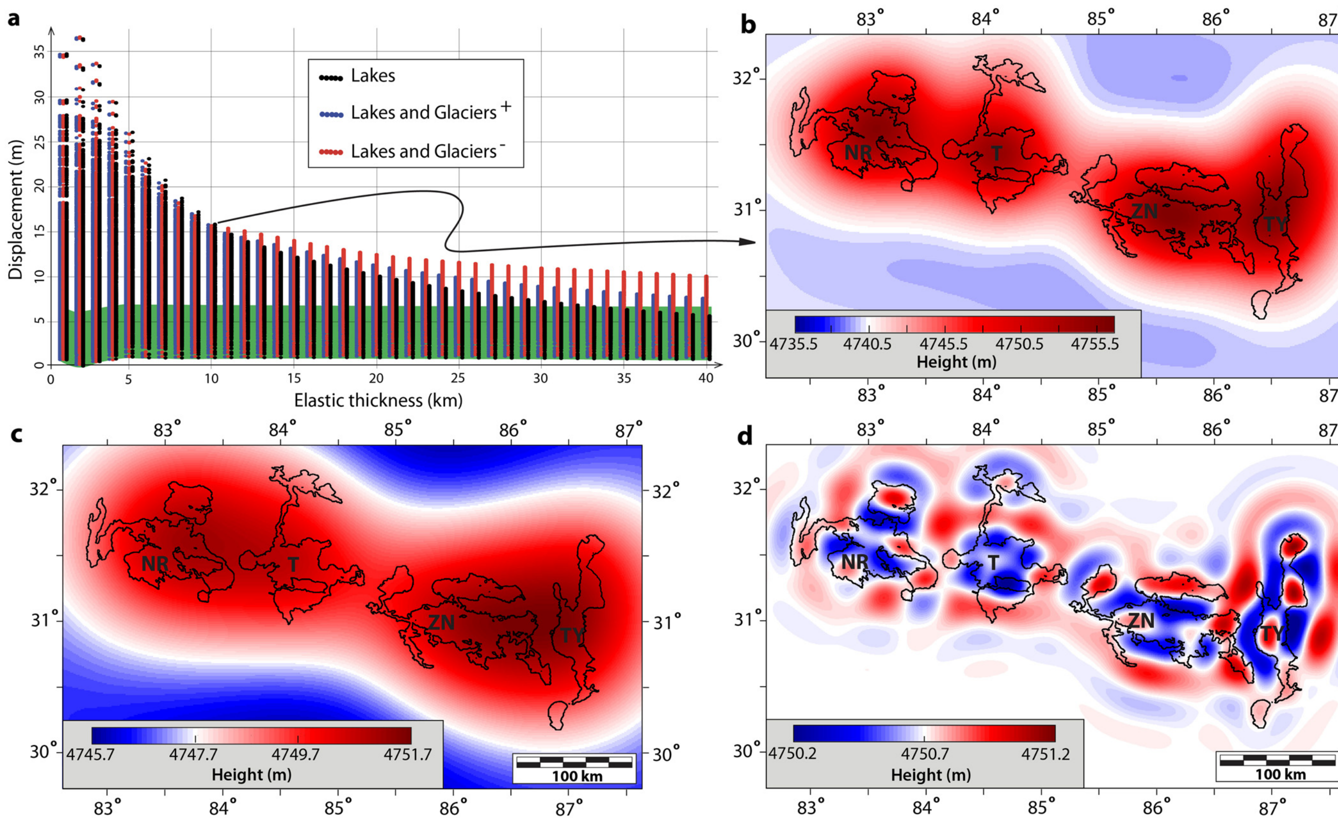

Fig. 4. Ground displacement around Ngangla Ring Tso, Taro Tso, Zhari Nam Tso and Tangra Yum Tso since their early Holocene highstand. (a) Range of calculated vertical displacements at the locations of the measured palaeoshorelines around Zhari Nam Tso. The model assumes an elastic lid over an inviscid fluid. The elastic thicknesses Teis varied between 1 km and 40 km. The removed load is constituted of the paleolake water bodies only (black), or include the load due to mountain glaciers assuming either a lower-bound (blue), or an upper-bound (red) extent (see supplements for details). The green shading shows the ∼6 m range observed in the measurements. (b) Output from a particular elastic model with an elastic lid of thickness Te = 10 km over an inviscid medium at the lower end of the elastic models of England et al. (2013). (c) Viscoelastic model with the best set of parameters inferred by Doin et al. (2015); an elastic lid of thickness Te = 30 km overlying a viscoelastic channel of viscosity $\eta = 2 \times 1018$ Pa.s and thickness $L = 35$ km over a rigid base. (d) One of the best-fitting viscoelastic models obtained in this study with an elastic lid of thickness Te = 6.4 km overlying a viscoelastic channel of viscosity $\eta = 5 \times 1019$ Pa.s and thickness $L = 5.9$ km over a rigid base. The restored mean elevation of the highstand before the regression according to each model is 4740.5 m (b), 4747.7 m (c) and 4750.7 m (d). (For interpretation of the colors in the figure(s), the reader is referred to the web version of this article.)

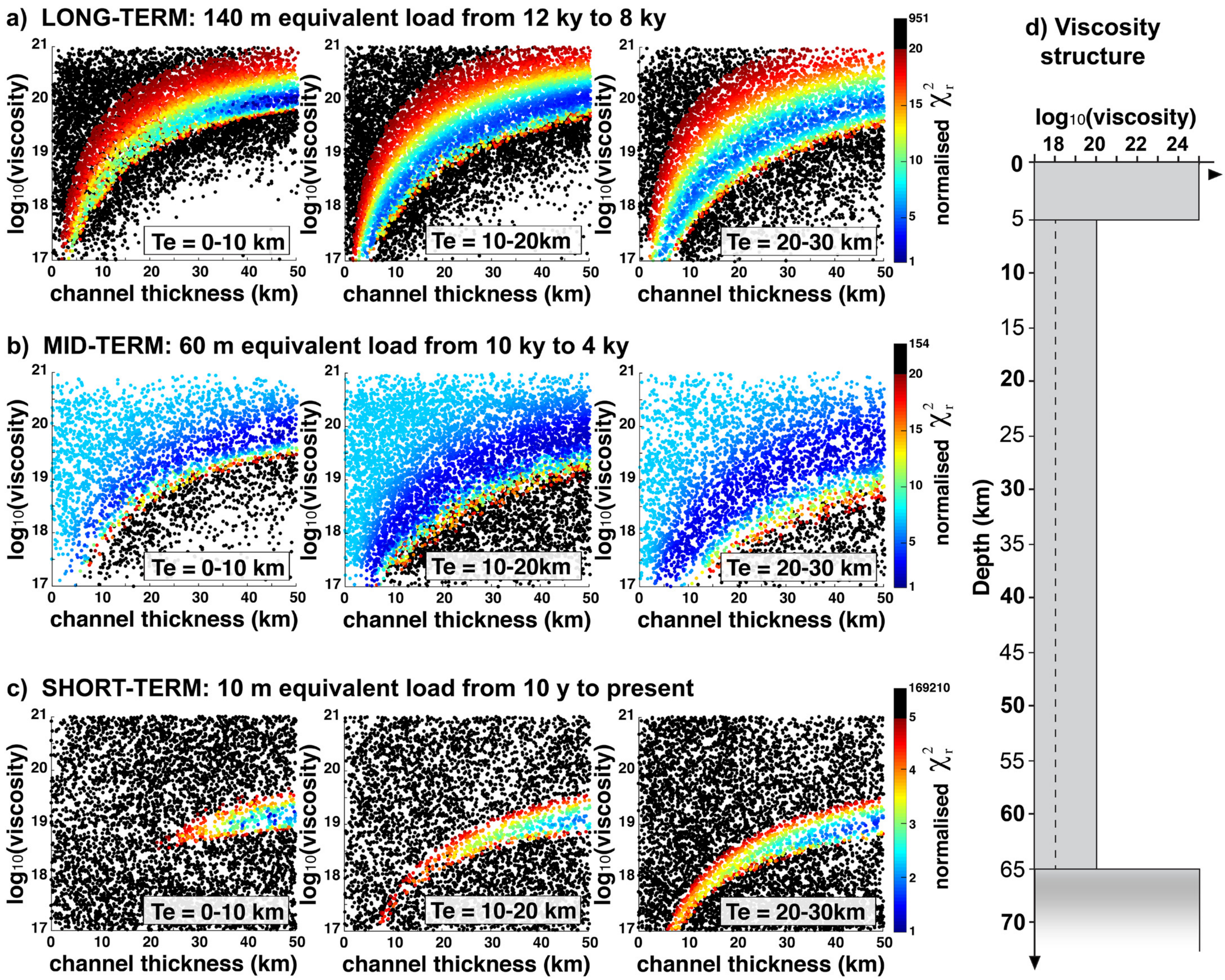

Fig. 9. Synthetic test demonstrating how the apparent time dependent rheology deduced from the observations can result from a biviscous Burger rheology. We calculated the ground deformation due to a 100 km wide cylindrical time-varying load using the viscoelastic code from Bills et al. (1994). The model assumes a 5 km elastic lid over a 60 km thick viscoelastic layer with a transient viscosity of 1018 Pa.s (dashed line) and a long-term viscosity of 1020 Pa.s, overlying an elastic half space. Three synthetic datasets corresponding to either a long-term (∼Zhari Nam Tso), a mid-term (∼Siling Tso) or a short term (∼present-day Siling Tso) scenario were produced. Two scenarios mimic the post Late Glacial Maximum history of lake transgression and regression observed at Zhari Nam Tso and Siling Tso. It assumes a highstand from 12 ka to 8 ka (similar to Zhari Nam Tso) or from 10 ka to 4 ka (similar to Siling Tso). The other loading history mimics the recent transgression of lake Siling Tso. It assumes a transgression of 10 m over 10yr (present-day Siling Tso). The synthetic displacements are then inverted using the same methodology as the one used to invert the real observations. Results of the inversion of the long-term (a), the mid-term (b) and the short-term (c) scenarios are shown as 2 dimensional slices into the 3 parameters space for different ranges of elastic thickness.